Claims

1. A method for the detection of an object moving in the monitored region (15) of a camera (13), wherein
   - an actual image of the monitored region is recorded by the camera (13);
   - at least one actual measured value is derived from the actually recorded image which provides information on differences between at least two different image regions and which is invariant with respect to image displacements, image rotations and/or image size changes;
   - this actual measured value is compared with a corresponding reference value derived from a stored reference image recorded by the camera (13); and
   - an object recognition reaction is triggered on a pre-set deviation of the actual measured value from the reference value.

2. A method in accordance with claim 1, characterized in that a structure, which is a component of the image, is superimposed on the reference image and the actually recorded image; and in that the reference value and a measured value are gained from the corresponding structure information.

3. A method in accordance with claim 2, characterized in that the structure in the monitored region (15) is generated during the recording of the reference image and of the actual images of the

monitored region by means of a projection device (14) and/or by means of a moved light beam.

4. A method in accordance with claim 2, characterized in that mutually different structures are generated in the monitored region (15) simultaneously or in time sequence.

5. A method in accordance with claim 4, characterized in that different projection devices (14) are used for the generation of the different structures.

6. A method in accordance with claim 1, characterized in that an image of an object-free monitored region (15) is used as the reference image.

7. A method in accordance with claim 1, characterized in that a reaction is triggered when the comparison of the actual measured value with the reference value provides a comparison value which lies outside a pre-set tolerance range.

8. A method in accordance claim 1, characterized in that the image information or structure information comprises, among other things, information related to reference points, with the reference points in particular marking the boundaries of the monitored region (15).

9. A method in accordance with claim 8, characterized in that reflectors are used for the marking of the reference points and are arranged at invariant positions relative to the monitored region (15).

10. A method in accordance with claim 1, characterized in that a plurality of actual measured values of the same or of a different type is derived from the actual image information or structure information and is compared with corresponding stored reference values derived from the image information or the structure information of the reference image.

11. A method in accordance with claim 1, characterized in that the measured value(s) or reference value(s) include one or more pieces of the following information:

- distance between two different image regions or structure regions or between a reference point and an image region or a structure region;
- brightness difference between two different image regions or structure regions or between a reference point and an image region or a structure region;
- color difference between two different image regions or structure regions or between a reference point and an image region or a structure region;
- brightness gradient between two different image regions or structure regions or between a reference point and an image region or a structure region.

12. A method in accordance with claim 1, characterized in that a correlation function is calculated between at least one region of the actual image information or structure information and a corresponding region of the image information or of the structure information of the reference image and the shape of this correlation function and/or determined values of this correlation function are used for the decision with respect to the triggering of an object recognition reaction.

13. A method in accordance with claim 1, characterized in that the monitored region (15) is illuminated by means of at least one light source (14) during the recording of the reference image and of the actual images of the monitored region (15).

14. A method in accordance with claim 2, characterized in that a check is made whether the camera (13) is in working order by recording images regularly with and without a structure generated in the monitored region and by checking whether the structure information is found with a generated structure and is not found with no structure generated.

15. A method in accordance with claim 14, characterized in that mutually different structures, which are generated simultaneously or in time sequence in the monitored region (15) are used for the checking of the camera (13).

16. A method in accordance with claim 1, characterized in that one image is always recorded per shot with a generated structure and

one with no structure generated, both in the recording of reference images and in the recording of actual images and subsequently only the difference image from these two images is further processed.

17. A method in accordance with claim 16, characterized in that an objection recognition reaction or a malfunction reaction is always triggered when a difference results between the reference difference image and an actually recorded difference image.

18. An apparatus for the detection of an object moving in a monitored region (15) comprising:

- a camera (13) to record an image of the monitored region (15);
- a device for the derivation of at least one actual measured value from the actually recorded image, with the measured value supplying information on differences between at least two different image regions and being invariant with respect to image displacements, image rotations and/or image size changes;
- a comparison device for the comparison of this actual measured value with a corresponding reference value derived from a stored reference image recorded by the camera (13); and
- an object recognition stage for the triggering of an object recognition reaction on the finding of a pre-set deviation of the actual measured value from the reference value.

19. An apparatus in accordance with claim 18, characterized in that reference points, which in particular mark the boundaries of the monitored region (15) are provided in the monitored region (15) or at the edge of the monitored region (15).

20. An apparatus in accordance with claim 19, characterized in that the reference points are formed as reflectors which are arranged at invariant positions relative to the monitored region (15).

21. An apparatus in accordance with claim 18, characterized in that at least one projection device (14) and/or at least one device for the generation of a moved light beam is provided for the generation of a structure in the monitored region (15) during the recording of the reference image and of the actual images of the monitored region (13).

22. An apparatus in accordance with claim 18, characterized in that at least one light source (14) is provided for the illumination of the monitored region (15).